# King County Investment Pool Portfolio Review

Quarter Ended December 31, 2015



Presented by:

PFM Asset Management LLC

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## **Executive Summary**

## Purpose, Scope and Approach

- PFM Asset Management LLC ("PFM") prepared this report to update our ongoing analysis and to address any Investment Pool developments since our September 2015 review. Our approach included a detailed portfolio analysis and Investment Policy Compliance review, based on the County's Investment Policy, dated September 2015.
- · Our analysis was based on the Investment Pool's holdings as of December 31, 2015, with reference to holdings in past periods.
- The review encompasses all current investments in the County's Investment Pool.

# Investment Program and Portfolio Review

- PFM reviewed the County's portfolio with respect to Investment Policy Compliance, Sector Allocation, Issuer Concentration, Credit Quality, Maturity Distribution, and Duration Distribution.
- The County's Investment Pool appears to provide ample liquidity, is well diversified, and is of sound credit quality. All holdings are investment grade and pose minimal risk to principal.

#### **Market Recap**

- In December, the Federal Open Market Committee (FOMC) raised the target federal funds rate by 0.25%, from a target of 0-0.25% to 0.25-0.50%. Markets often anticipate change and this was no exception: interest rates rose in advance of the FOMC tightening and now await the timing of the next move.
- Ongoing job growth played a key role in the FOMC's decision as job gains maintained an average of more than 200,000 per month over the past year and the unemployment rate held at 5%, a post-recovery low.
- Third-quarter gross domestic product (GDP) grew at a 2.0% annualized pace. Auto sales were strong over the past quarter, as were online sales growing 20% over the last year. Oil prices plunged to below \$35 per barrel in December, the lowest in nearly seven years, as demand from emerging markets economies slowed at the same time that production, especially from the OPEC countries, remained high.
- While Treasury yields across the curve ended the quarter higher, the path towards higher rates varied by maturity. Short and intermediate maturity yields rose
  steadily throughout the quarter as expectations for a December FOMC rate hike increased with an inflow of modestly strong economic data. After increasing
  during the first half of the quarter, longer maturities leveled off as market participants priced in moderate growth expectations and assessed the likely impact of
  persistently low commodity prices on long-term inflation. These factors combined to produce a flatter yield curve.

#### **Observations**

- The portfolio is of very high credit quality. The majority of securities (88%) are explicitly guaranteed or carry a high level of support by the U.S. Government (U.S. Treasury and Federal Agency) and/or possess overnight liquidity (Washington State LGIP, bank deposits, and repurchase agreements).
- The County's Investment Pool balance (market value) as of December 31, 2015 was \$6.2 billion, having experienced a net increase of approximately \$586 million over the quarter, following a \$43 million decrease from the prior quarter-end.
- Notable sector allocation shifts over the quarter included <u>increases</u> to Federal Agencies (\$378 million), US Treasuries (\$242 million), corporate bank notes (\$129 million), commercial paper (\$72 million), and <u>decreases</u> to the State LGIP (\$125 million), repurchase agreements (\$110 million), cash equivalents (\$1 million), and agency mortgages (\$1 million).
  - The portfolio continued to increase allocations to corporate sectors (bank notes and commercial paper). These sectors now account for 16% of the overall portfolio totaling \$1.0 billion (up from 15% and \$813 million last quarter). These investments add value to the portfolio as their yields are higher relative to similar maturity government investment options and are all investment grade.
- Over the past several quarters, the Pool has shifted its maturity strategy to reflect a more defensive bias in anticipation of the first fed rate hike. In order to do so, the Pool has removed excess overnight liquidity and reallocated those investments to attractive-yielding 0 to 3 month and 6 to 9 month securities, while simultaneously shortening longer investments (greater than 3 years) and targeting the 1 to 2 year maturity range.
- As of December 31st, the duration of the County Investment Pool is 0.93 years, a slight decrease from a duration of 0.98 years on September 30th. Over the past several quarters, the Pool's duration has gradually been shifted shorter, which reflects a more defensive posture, as noted above.
- In anticipation of the upcoming quarter, over the past four years, for the quarters ended March 31st, the average net outflow from the Pool was \$224 million.
  - The County Pool appears to provide adequate liquidity, with 8.5% (or \$529 million) invested in a combination of the State LGIP, bank deposits, and repurchase agreements (overnight) and an additional 62% (or \$3.8 billion) of the portfolio's holdings scheduled to mature within the next 12 months.

## Investment Pool Portfolio Review

#### **Portfolio Review**

- I. Investment Policy Compliance
- II. Sector Allocation
  - U.S. Treasuries
  - Federal Agencies
  - Commercial Paper
  - Corporate Bank Notes
  - LGIP and Cash Equivalents
- III. Issuer Concentration
- IV. Overall Credit Quality
- V. Maturity and Duration Distribution

# I. Investment Policy Compliance – Investment Policy Summary

• The Investment Policy summary is based on the current Investment Policy for the County Investment Pool, dated September 23, 2015.

Туре	Maximum Portfolio Allocation	Issuer Restrictions	Credit Ratings	Maturity Restrictions
U.S. Treasuries	100%	None	N/A	Up to 5 years
U.S. Agencies	100%	35% exposure to any single Agency	Senior debt obligations issued by any government sponsored enterprise, agency or instrumentality of the United States.	Up to 5 years
Repurchase Agreement	100%	100% for repurchase agreements with the Federal Reserve Bank of New York  25% maximum exposure to any one repo counterparty.  For the purposes of aggregating issuers across sectors, overnight repo counterparties are not included.	The counterparty must have:  1. A rating in the highest short-term credit rating category by at least one Nationally Recognized Statistical Rating Organization (NRSRO); and  2. A minimum asset and capital size of \$5 billion in assets and \$175 million in capital	60 days or less
Reverse Repurchase Agreement	20%	5% per investment dealer	<ol> <li>rated in the highest short-term credit rating category by at least one NRSRO; and</li> <li>a minimum asset and capital size of \$5 billion in assets and \$175 million in capital</li> </ol>	6 months or less
Local Government Investment Pool ("LGIP")	25%	State of Washington LGIP	N/A	N/A
Bankers' Acceptances	When combined with Term Repos (greater than overnight), Certificates of Deposit, Commercial Paper and Bank Notes not to exceed 50% of the Pool assets.	Must be issued by a bank organized and operating in the U.S.  Maximum 5% per issuer applied across investment types.	Rated in the highest short-term credit rating category by at least two NRSROs.	Up to 180 days

# I. Investment Policy Compliance – Investment Policy Summary (cont'd)

Туре	Maximum Portfolio Allocation	Issuer Restrictions	Credit Ratings	Maturity Restrictions
Certificates of Deposit	When combined with Banker's Acceptance, Term Repos (greater than overnight), Commercial Paper and Bank Notes not to exceed 50% of the Pool assets.	Must be a public depository in the State of Washington.  Maximum 5% per issuer applied across investment types.	See RCW 39.58 of the state Code.  If not 100% collateralized, must be rated in the highest short-term rating category by at least one NRSRO.  Those institutions not meeting the 100% collateralization or minimum credit requirements may receive deposits up to the FDIC or federally guaranteed amounts.	Up to 1 year
Commercial Paper	When combined with Banker's Acceptance, Certificates of Deposit, Term Repos (greater than overnight) and Bank Notes not to exceed 50% of the Pool assets.	Secondary market purchases only.  Must be issued by a bank or corporation organized and operating in the U.S.  Maximum 5% per issuer applied across investment types.	Purchases with greater than 100 days maturity must have an issuer long-term rating in one of the three highest credit rating categories by one NRSRO.  Rated in the highest short-term rating category by at least two NRSROs. If the commercial paper is rated by more than two NRSROs, it must have the highest rating from all of the organizations.  State law requires that Commercial Paper be purchased only from dealers.	270 days
General Obligation Municipal Bonds	20%	5% of portfolio: bond issues by pool participants must be purchased on the secondary market only	Rated in at least the highest three long-term rating categories by at least one NRSRO.	5 years
Mortgage-Backed Securities	25%	Must be issued by Federal Agencies of the United States.  Investments in MBS will count toward the total that can be invested in any one agency as described in U.S. Agencies above.  Full faith and credit MBS are limited to 25%.	Senior debt obligations issued by any government sponsored enterprise, agency or instrumentality of the United States.  The securities must pass the Federal Financial Institutions Examination Council ("FFIEC") suitability test, which banks use to determine lowest risk securities.	5 year average life at time of purchase

# I. Investment Policy Compliance – Investment Policy Summary (cont'd)

Туре	Maximum Portfolio Allocation	Issuer Restrictions	Credit Ratings	Maturity Restrictions
Bank Notes	When combined with Banker's Acceptance, Certificates of Deposit, Commercial Paper and Term Repos (greater than overnight) not to exceed 50% of the Pool assets.	Must be issued by a bank organized and operating in the U.S.  Maximum 5% per issuer applied across investment types.	Rated in at least the highest three long-term rating categories by at least two NRSROs.	5 years

#### **Additional Notes to the Investment Policy**

- The Pool will maintain an effective duration of 1.5 years or less.
- The Pool will maintain at least 40% of its total value in securities having a remaining maturity of 12 months or less.
- Floating rate and variable rate securities are permitted subject to the following criteria:
  - 1) The rate on the FRN/VRN resets no less frequently than quarterly; and
  - 2) The FRN/VRN is indexed to a money market rate.

# I. Investment Policy Compliance - County Investment **Pool**

Topic	Observations
Sector Allocation	<ul> <li>All sector allocations fall within the limits set forth by the County's Investment Policy Statement. The Pool is predominantly invested in U.S. government securities which are either explicitly guaranteed or carry a high level of support by the U.S. government.</li> <li>The County's Investment Pool balance (market value) as of December 31, 2015 was \$6.2 billion and experienced a net increase of approximately \$586 million over the quarter, following a \$43 million decrease from the prior quarter-end.         <ul> <li>The seasonality of the Pool's balances indicates a historical balance increase was expected for this quarter. For example, over the past five years (including fourth quarter 2015), the Pool's balance has increased, on average, by \$440 million each quarter-ended December 31st.</li> </ul> </li> <li>Over the quarter, sectors that experienced balance increases, included: Federal Agencies (\$378 million), US Treasuries (\$242 million), commercial paper (\$72 million), and corporate bank notes (\$129 million).</li> <li>Sectors that experienced decreases in quarter-over-quarter balances, included: Cash and equivalents (\$1 million), Washington State LGIP (\$125 million), repurchase agreements (\$110 million) and agency mortgages (\$1 million).</li> <li>The County continues to maintain a small allocation to agency mortgage backed securities, but has not purchased new agency MBS in several quarters. On average, over the past four quarters, federal agency MBS paydowns have totaled \$479,000 per quarter.</li> </ul>
Credit Quality	<ul> <li>Securities held by the County are of very high quality and are within the limits set forth in the County Investment Policy.</li> <li>Approximately 75% of the County's assets are guaranteed or supported by the U.S. government. Further, approximately 5% is invested in the State LGIP, which is not rated; however, 70% of the LGIP is invested in U.S. Treasuries or Federal Agencies.</li> <li>Corporate allocations (both commercial paper and corporate bank notes) were increased over the quarter to 16% of the portfolio, up from 6% this time last year; all securities are investment grade.</li> </ul>
Maturity Distribution	All maturities fall within the maturity limits set forth in the County's Investment Policy.

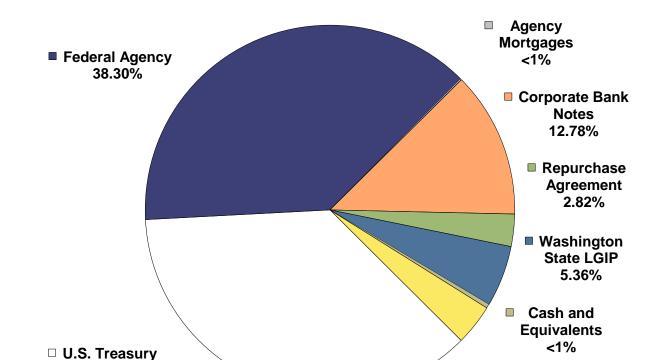
- Approximately 62% of the Pool's assets mature in one year or less and approximately 25% of the portfolio is scheduled to mature within the next quarter.

Security Type	Market Value(\$)	Allocation Percentage	Within Policy Limits	Max Maturity Held	Within Policy Limits
U.S. Treasury	2,275,000,000	36.70%	✓	3.00 years	✓
Federal Agency (non-MBS)	2,373,664,000	38.30%	✓	2.40 years	✓
Agency Mortgages	6,711,334	0.11%	✓	3.35 years (WAL)	✓
Municipal Note	0	0.00%	✓	n/a	✓
Corporate Bank Notes	792,400,000	12.78%	✓	3.83 years	✓
Certificates of Deposit	0	0.00%	✓	n/a	✓
Commercial Paper	221,871,000	3.58%	✓	172 days	✓
Repurchase Agreement	175,000,000	2.82%	✓	4 day	✓
Cash and Equivalents	21,435,187	0.35%	✓	1 day	✓
Washington State LGIP	332,121,275	5.36%	✓	1 day	✓
TOTAL	\$ 6,198,202,797	100.00%			

<sup>\*</sup>Percentages may not total to 100% due to rounding.

## II. Sector Allocation

**Sector Diversification** as of December 31, 2015



36.70%

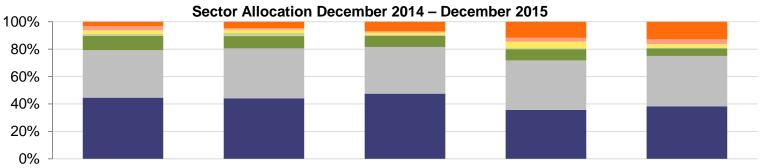
□ Commercial Paper 3.58%

<sup>\*</sup>Percentages may not total to 100% due to rounding.

# II. Changes in Portfolio Sector Allocation over Past 12 Months

Changes in Sector Allocation

- The County's investment pool increased percentage allocations to Federal Agencies (2.75%), U.S. Treasuries (0.48%), commercial paper (0.91%) and corporate bank notes (0.97%), while all other sectors accounted for decreased percentage allocations over the quarter.
- <u>Federal Agencies.</u> Federal agency allocations bounced back above US Treasury allocations since last quarter's drop. Approximately \$411 million of agency holdings were either sold or matured during the quarter and the proceeds were reinvested into more Agency securities. The majority of current agency allocations are focused in the 6 to 9 month range.
- <u>US Treasuries.</u> US Treasury allocations increased by \$242 million over the quarter. Purchases in the Treasury sector were targeted in the 1.5- to 2.5-year maturity range.
- <u>Corporate Bank Notes.</u> The portfolio added funds to corporate bank notes over the quarter, marking a continued trend of increasing allocations to this sector over the past several quarters. The past four quarters experienced net increases to the corporate bank note sector of \$68 million, \$157 million, \$267 million, and \$129 million. This sector now accounts for 12.8% of the overall portfolio totaling \$792 million (compared to 11.8% or \$663 million last quarter).
- <u>Commercial Paper</u>. The portfolio currently owns three commercial paper issuers totaling \$222 million (or 3.6% of the total portfolio), representing an increase of \$72 million over the quarter.
- Washington State LGIP. Balances invested in the State LGIP decreased over the quarter by approximately \$125 million, and continued to serve as the Pool's primary liquidity vehicle. This sector accounts for 5.4% of the overall portfolio.
- Repurchase Agreements and Bank Deposits. Allocations to repurchase agreements decreased by \$110 million over the quarter and accounted for 2.8% of the total portfolio. Bank deposits were decreased modestly by approximately \$1 million over the quarter to \$22 million (less than 0.5% of the total portfolio).



	December 31, 2014	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015
Federal Agencies	44.52%	44.15%	47.45%	35.54%	38.30%
U.S. Treasury	34.75%	36.40%	34.17%	36.22%	36.70%
Washington State LGIP	10.51%	9.01%	8.08%	8.14%	5.36%
Cash and Equivalents	1.02%	1.51%	0.38%	0.40%	0.35%
Agency Mortgages	0.16%	0.17%	0.14%	0.13%	0.11%
Municipal Notes	-	-	-	-	-
Repurchase Agreements	2.72%	3.00%	1.91%	5.08%	2.82%
Commercial Paper	3.12%	1.08%	0.88%	2.67%	3.58%
Corporate Bank Notes	3.20%	4.69%	6.99%	11.81%	12.78%

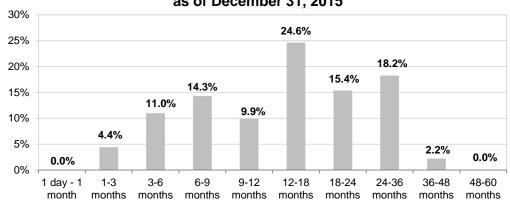
<sup>\*</sup>Percentages may not total to 100% due to rounding.

## II. Sector Allocation – U.S. Treasury Securities

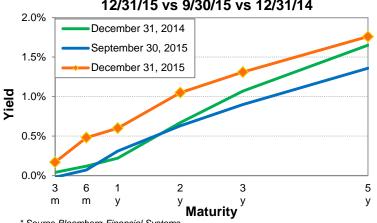
#### DigoT **Observations** Observations The County's balances held in U.S. Treasuries increased by \$242 million over the quarter and represent 37% of the total portfolio (up 1% from previous quarterend). Over the quarter, it appears the Pool targeted approximately \$400 million in new US Treasury notes with maturities in the 1 to 2 year maturity range. Treasury yields moved higher in the fourth quarter largely in response to the Fed's more hawkish tone after their October meeting. As a result, the markets began to price in growing expectations for the first rate hike since 2006 at the Fed's meeting in December. o As shown in the chart on the right below, over the past 12 months, US Treasury yields on maturities in the 3-month to 5-year area of the yield curve have increased. Most of this change occurred in the past quarter with rates increasing by 0.25% at December's FOMC meeting. o Therefore, with short and intermediate maturities (up to seven years) rising and longer maturities (over seven years) falling slightly, flattening of the yield curve occurred after the first rate hike. The majority of the Pool's Treasury investments (\$1.4 billion, or 60% of all Treasury holdings) have remaining maturities of greater than one year and are positioned in the steeper portions of the US Treasury yield curve. Allocations of 4.4% were added to the 0 to 3 month maturity range this quarter, further diversifying the U.S. Treasury maturities in the portfolio. • The County's weighted average maturity (WAM) of its Treasury allocation decreased over the quarter by 2 days, from 473 days on September 30th to 471 days on

- December 31st, consistent with the value and steepness in the current yield curve.
- The chart below, on the left, illustrates the current maturity distribution of the County's allocations to US Treasuries and the chart on the right illustrates the current shape of the US Treasury yield curve, compared to the yield curve six months ago and one year ago.
  - Of the County's Treasury allocations, 40% is allocated to maturities less than 12 months (versus 38% last quarter).
  - As liquidity permits and new investment opportunities become available, these short-term US Treasury holdings (less than 12 months) are ideal to trade for (1) longer-term Treasury or corporate bank note investments targeted to the steepest portions of the yield curve and/or (2) higher-yielding, similar-maturity investments in other sectors, such as federal agencies, commercial paper, or short-term corporate bank notes.

#### **U.S. Treasury Maturity Distribution** as of December 31, 2015



#### **U.S. Treasury Yield Curve** 12/31/15 vs 9/30/15 vs 12/31/14

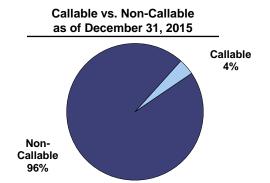


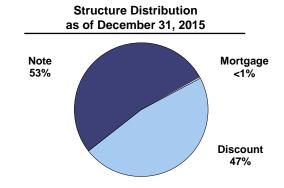
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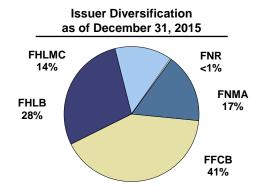
\* Source Bloomberg Financial Systems

# II. Sector Allocation – Federal Agencies

Topic	Observations			
Structure (as % of Federal Agency Allocations)	Non-Callable     Callable	96% 4%	<ul><li>Discount Notes</li><li>Coupon bearing Notes</li><li>Agency Mortgage</li></ul>	47% 53% <1%
<b>Diversification</b> (as % of Federal Agency Allocations)	<ul><li>Freddie Mac (FHLMC)</li><li>Federal Home Loan Bank (FHLB)</li><li>Fannie Mae (FNMA)</li></ul>	14% 28% 17%	<ul><li>Federal Farm Credit Bank (FFCB)</li><li>Freddie Mac Mortgage-Backed (FHR)</li><li>Fannie Mae Mortgage-Backed (FNR)</li></ul>	41% 0% <1%
Conclusions	<ul> <li>allocations fall within the issuer guidelines s</li> <li>Federal Agency allocations increased by \$3 purchases, paired with \$411 million in matu difference of approximately \$6 million.</li> <li>From a security structure standpoint (the ra quarter, as callable allocations decreased to the past quarter, increasing yield securities passed their call date.</li> <li>All new Agency Note and Discounting As a result of these two circumstates 2010.</li> <li>The County Pool's only remaining allocations</li> </ul>	set forth in the Coun 1878 million over the prities. The change in tio of non-callable to 100 a 4% of agency hold ads reduced the probe the Note purchases we have, the County's of the to agency mortgage	versified among the four major issuers and among se ty's investment policy (max per agency issuer 35%). Quarter. The increase in allocations was due mainly to market value for securities that were continuously he callable securities), the trend of declining callable sellings, down 15% overall in the past year. ability that callable securities would be called, therefore in non-callable securities this quarter. Everall allocation to callable agencies declined to its lowes is in Fannie Mae pools, totaling approximately \$6.00 year) and naturally reduce the County's allocation to	o \$795 million in new Agency eld over the quarter makes up the curities continued over the re a portion of the Pool's callable west allocation since December 7 million, which continue to pay







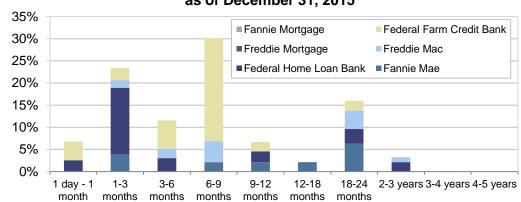
<sup>\*</sup>All calculations above are based on total cash equivalents exposure, not overall Portfolio.

<sup>\*\*</sup>Percentages may not total to 100% due to rounding.

# II. Sector Allocation – Federal Agencies

Topic	Observations
Maturity Distribution	The County's Federal Agency maturity distribution falls within the limits set forth by the Investment Policy Statement.
	<ul> <li>Over the quarter, the County's weighted average maturity (WAM) of Federal Agency holdings decreased by 38 days, from 295 days on September 30th to 257 days on December 31st.</li> </ul>
	<ul> <li>It appears that approximately \$411 million in agency securities were either called, sold, or matured during the quarter and the proceeds were reinvested in more Agency securities.</li> </ul>
	<ul> <li>As of December 31, 2015, 79% of agency allocations were invested in maturities less than 12 months and 42% in maturities less 6 months.</li> <li>Comparatively, 40% of US Treasury allocations were invested in maturities less than 12 months and 15% in maturities less 6 months.</li> </ul>
	<ul> <li>Conversely, while 21% of agency allocations were invested beyond 1 year, 60% of Treasury allocations were invested beyond 1 year. This     "short/long" relationship between Treasuries and agencies illustrates the cross-sector value along the yield curve.</li> </ul>
	o The overweight to shorter-term agencies can be attributed to the combination of (1) discount note yields increasing of late and providing higher yields compared to similar duration Treasury securities (as shown in the chart on the right, discount note yields continued to increase in the quarter) and (2) tight yield spreads between agency and Treasury securities of similar maturity beyond 2 years. That is, yields of 2-year agencies and Treasuries are relatively close, and in these instances, the US Treasury security is typically preferred.
	<ul> <li>Over the past several quarters, allocations to callable agency securities have declined significantly. The portfolio now owns a 4% allocation to callable agency securities (or \$91 million).</li> </ul>

## Federal Agency Maturity Distribution by Name as of December 31, 2015



#### Agency Mortgage maturities are calculated as average life. Average life data taken from Bloomberg Financial Markets

Callable securities are shown to their next call date.

· All other Agency maturities are calculated as days to maturity.

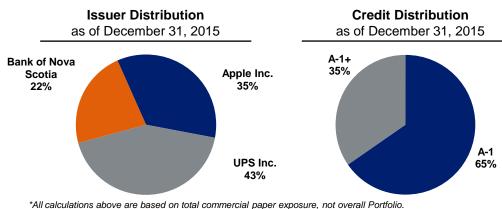
## Short-Term Federal Agency Yields Past 24 Months



\* Source Bloomberg Financial Systems

## II. Sector Allocation – Commercial Paper

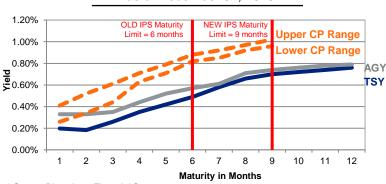
#### **Observations** The County's allocations to commercial paper increased over the quarter, by approximately \$72.1 million, and now account for 3.6% of the total portfolio. Issuer The portfolio now owns three commercial paper issuers: Apple Inc., United Parcel Service Inc., and Bank of Nova Scotia. **Diversification** Over the past several guarters, the County has maintained, or increased, allocations to high-quality commercial paper issues, a strategy that benefits the portfolio from the incremental yield available in this sector relative to government securities of similar maturity. It appears the County continues to regularly reinvest the proceeds of commercial paper maturities into new commercial paper issues. - "Rolling" short-term commercial paper is an attractive investment strategy relative to most other ultra short-term permitted investment options in the current fixed income market. All allocations fall within the permitted investment guidelines of 5% per issuer and 25% maximum to the sector. Standard & Poor's rates the short-term credit of Apple Inc. as A-1+ and Bank of Nova Scotia and United Parcel Service Inc. as A-1. Credit • Moodys rates the short-term credit of all of the County's CP issuers as P-1. Distribution Commercial paper provides the County an opportunity and an investment outlet to access non-bank, corporate debt (industrial, technology, etc.), as the **Conclusions** county's IPS limits corporate note exposure to banks. • High-quality commercial paper has offered noticeable yield advantage relative to similar maturity Treasury and agency securities over the past several years. This yield advantage of commercial paper is even more pronounced at longer maturities. As a result, the County's portfolio may benefit from additional allocations to other high-quality commercial paper issuers. The commercial paper yield curve is steepest in maturities beyond three months (chart on far right).





<sup>\*\*</sup>Percentages may not total to 100% due to rounding.

#### **Current Short-Term Yields** as of December 31, 2015



<sup>\*</sup> Source Bloomberg Financial Systems

## II. Sector Allocation – Corporate Bank Notes

### Observations

## Issuer Diversification

- The County has added allocations to high-quality corporate bank notes for the sixth consecutive quarter. This sector now accounts for 12.8% of the overall portfolio totaling \$792 million, an increase of \$129 million over the quarter.
- The portfolio's corporate bank note allocations include nine issuers (compared to eight issuers at the previous quarter-end): US Bank (\$124 million or 2.0% of the total portfolio), Bank of America (\$119 million or 1.9%), Toronto Dominion Bank (\$91 million or 1.5%), Royal Bank of Canada (\$121 million or 2.0%), PNC Bank (\$73 million or 1.2%), Wells Fargo Bank (\$125 million or 2.0%), Bank of Nova Scotia (\$83 million or 1.3%), Bank of Montreal (\$41 million or 0.7%), and JP Morgan Chase (\$15 million or 0.2%).
- Of the County's allocations to corporate bank notes, \$243 million (or 31% of corporate bank notes, down from 36% at previous quarter end) is allocated to callable structures; however, all of the callable corporate holdings have a "next call date" that is approximately one month before their respective final maturity. As a result, the callable structures of these investments will have minimal impact on maturity and duration management of the overall portfolio.
- When viewing the County's corporate bank note holdings to the next call date, the weighted average maturity of these investments is 1.5 years and the weighted average yield for the fourth quarter of 2015 is 1.18%. For perspective, the yield on a 2-year Treasury note averaged 0.82% for the fourth quarter of 2015, which illustrates the significant value that the corporate bank note space offers relative to similar maturity government securities.
- Of the County's total allocation to this sector, 58% is allocated to maturities beyond 1 year.
- All allocations fall within the permitted investment guidelines of 5% per issuer (please refer to following pages) and 20% maximum to the sector.

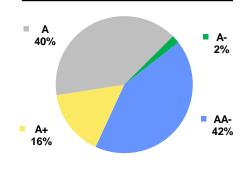
#### Credit Distribution

- All ratings are investment grade and fall within the credit guidelines in the County's IPS
- S&P ratings (long-term and short-term):
  - Bank of America (A and A-1); PNC Bank (A and A-1); US Bank (AA- and A-1+); Wells Fargo (A+ and A-1+); Toronto Dominion Bank (AA- and A-1+);
     Royal Bank of Canada (AA- and A-1+); Bank of Nova Scotia (A+ and A-1); Bank of Montreal (A+ and A-1); JP Morgan Chase (A+ and A-1)
- Moodys ratings (long-term and short-term):
  - Bank of America (A1 and P-1); PNC Bank (Aa2 and P-1); US Bank (Aa3 and P-1); Wells Fargo (Aa1 and P-1); Toronto Dominion Bank (Aa1 and P-1); Royal Bank of Canada (Aa3 and P-1); Bank of Nova Scotia (Aa2 and P-1); Bank of Montreal (Aa3 and P-1); JP Morgan Chase (Aa2 and P-1)

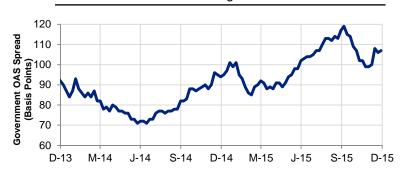
## Issuer Distribution as of December 31, 2015

as of December 31, 2015					
Issuer	% of Corporates	% of Portfolio			
US Bank	16%	2.0%			
Wells Fargo	16%	2.0%			
Bank of America	15%	1.9%			
Royal Bank of Canada	15%	2.0%			
Toronto Dominion	12%	1.5%			
Bank of Nova Scotia	10%	1.3%			
PNC Bank	9%	1.2%			
Bank of Montreal	5%	0.7%			
JP Morgan Chase	2%	0.2%			

## Credit Distribution (S&P)\* as of December 31, 2015



## 1-5 Year Financial Corporate/Treasury Yield Spreads December 2013 through December 2015



<sup>\*</sup> Source Bloomberg Financial Systems

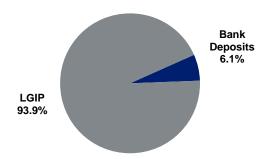
<sup>\* &</sup>quot;Credit Distribution" calculations above are based on total Corporate Bank Note exposure, not overall Portfolio.

<sup>\*\*</sup>Percentages may not total to 100% due to rounding.

# II. Sector Allocation – LGIPs and Cash Equivalents

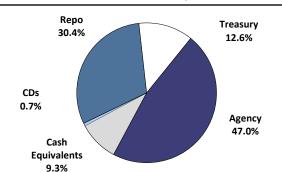
	Underlying Investments	Rating (Short- Term: S&P/ Moody's/Fitch)	Observations
Washington State LGIP	<ul> <li>Federal Agencies 46.9%</li> <li>U.S. Treasuries 12.6%</li> <li>Cash Equivalents 9.3%</li> <li>Certificates of Deposit 0.7%</li> <li>Repurchase Agreements 30.4%</li> <li>As of December 31, 2015</li> </ul>	• N/A	<ul> <li>The County currently has allocated \$332 million to the Washington State LGIP, down over the quarter, approximately \$125 million.</li> <li>Despite the gradual decrease in LGIP balance over the past two years, the County's allocation to the State LGIP continues to serve as the primary overnight liquidity vehicle for the portfolio.</li> <li>Similar to the County Pool's allocation changes over the quarter, the State LGIP also increased federal agency discount notes approximately (3.1%), while most other sectors experienced decreases in percentage allocations over the quarter, with U.S. Treasuries leading the way at a 1.3% decrease.</li> </ul>
Cash Equivalents	<ul> <li>State LGIP 93.9%</li> <li>U.S. Bank 4.5%</li> <li>Key Bank 1.4%</li> <li>Bank of America 0.2%</li> <li>As of December 31, 2015</li> </ul>	<ul> <li>U.S. Bank: A-1+/P-1/F1+</li> <li>Key Bank: A-2/P-2/F-1</li> <li>Bank of America: A-1/P-2/F-1</li> </ul>	<ul> <li>The County's deposit accounts at U.S. Bank, Key Bank, and Bank of America are FDIC-insured up to FDIC limits, and are 100% collateralized by the Public Deposit Protection Commission.</li> <li>The County decreased allocations to bank deposits by approximately \$1 million over the quarter to \$21.5 million. The US Bank account now accounts for over 74% of the Pool's bank deposit allocations (Key Bank 23% and Bank of America 3%).</li> <li>Additionally, while the County pool is limited to CDs issued by banks in the State of Washington, there still may be an opportunity to add small allocations to CDs, as this sector continues to provide incremental yield advantages relative to many shorter-term investment options of similar maturity.</li> </ul>

## Cash Equivalents Distribution as of December 31, 2015



<sup>\*</sup>All calculations above are based on total cash equivalents exposure, not overall Portfolio.

## Washington State LGIP Sector Distribution as of December 31, 2015



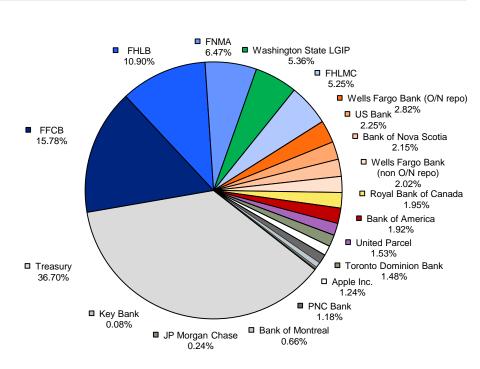
<sup>\*\*</sup>Percentages may not total to 100% due to rounding.

### III. Issuer Concentration

#### **Issuer Exposure**

- · The County continues to maintain a well-diversified portfolio by issuer, as is evidenced by the chart below.
- Approximately 75% of the portfolio is allocated directly to U.S. government guaranteed or government supported entities.
- Of the remaining 25% of the portfolio, 14% is allocated to ultra short-term or overnight investment vehicles, including the State LGIP, repurchase agreements, and bank deposits. The remaining 11% is allocated to credit issuers, including commercial paper and corporate bank notes.
- When including the Pool's indirect exposure to issuers through its holdings in the Washington State LGIP, the Pool's allocation to securities issued by U.S. government or government supported entities would increase to 80%.
- The County added two new corporate issuers to the portfolio over the quarter, including: UPS (CP) and JP Morgan Chase (Bank Note).
- Each of the corporate issuers n the portfolio (including the County's bank deposits) falls within the 5% corporate issuer limit when aggregated among all sectors, as shown in the charts below.

Issuer Distribution	Value	Percentage	<b>Issuer Limit</b>
Treasury	2,275,000,000	36.70%	100%
FFCB	978,100,000	15.78%	35%
FHLB	675,525,000	10.90%	35%
FNMA	401,192,334	6.47%	35%
Washington State LGIP	332,121,275	5.36%	25%
Wells Fargo Bank (O/N repo)	325,558,000	5.25%	25%
FHLMC	175,000,000	2.82%	35%
US Bank	139,653,552	2.25%	5%
Bank of Nova Scotia	133,186,000	2.15%	5%
Wells Fargo Bank (non O/N repo)	124,992,000	2.02%	5%
Royal Bank of Canada	121,014,000	1.95%	5%
Bank of America	119,201,249	1.92%	5%
UPS	95,000,000	1.53%	5%
Toronto Dominion Bank	91,489,000	1.48%	5%
Apple Inc.	76,871,000	1.24%	5%
PNC Bank	73,368,000	1.18%	5%
Bank of Montreal	40,936,000	0.66%	5%
JP Morgan Chase	15,025,000	0.24%	5%
Key Bank	4,970,386	0.08%	5%
Total	6,198,202,797	100.00%	



<sup>\*</sup>Percentages may not add to 100% due to rounding

<sup>\*</sup> For the purposes of totaling issuer concentration, issuers are aggregated across all sector types. It is noted however that issuers across sector types may maintain separately rated issuer credits.

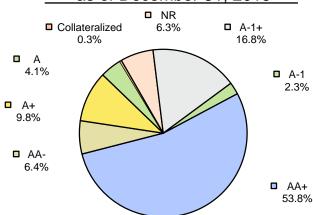
## IV. Overall Credit Quality

#### **County Investment Pool Credit Analysis**

- The County Pool's overall average credit rating remains very strong and is primarily concentrated in U.S. government guaranteed and/or supported securities which maintain a long-term credit rating of AA+ by Standard & Poor's and federal agency discount notes, which maintain a short-term credit rating of A-1+ by S&P.
- During the quarter, the County added exposure to one high quality corporate note issue, JP Morgan (\$15 million or 0.2% of the total portfolio) rated A+ by S&P and Aa2 by Moody's.
- The County added to its commercial paper exposure with the addition of United Parcel Service Inc. to its list of issuers (\$95 million or 1.53% of the total portfolio), rated A+ by S&P and Aa3 by Moody's.
- Allocations were maintained to bank notes for Bank of America, US Bank, Wells Fargo, PNC Bank, Royal Bank of Canada, Toronto Dominion Brank, Bank of Nova Scotia, and Bank of Montreal. Commercial paper allocations were maintained for Bank of Nova Scotia and Apple Inc.
  - Corporate bank note allocations held throughout the quarter have ratings of A/A1 or higher.
  - Commercial paper allocations that were maintained are all rated A-1/P-1 or higher.
- The County has additional corporate exposure through its 0.4% allocation to bank deposits.
  - These deposits are 100% collateralized by U.S. Treasury and Federal Agency securities, as the County's deposits are covered by the Public Deposit Protection Commission.
- The 6.3% NR allocation represents the County's investment in the Washington State LGIP, which is not currently rated by any ratings agency.
- The County's investment in the Washington LGIP includes indirect corporate exposure:
  - Through the LGIP, 1.6% of the County's Pool is allocated indirectly to corporate securities (repurchase agreements and certificates of deposit).
  - The collateralization of the securities held by the LGIP minimizes any credit risk.
- PFM has no concerns regarding the Pool's current credit distribution.

#### \*Ratings by S&P; percentages may not add to 100% due to rounding.

# Credit Distribution\* as of December 31, 2015



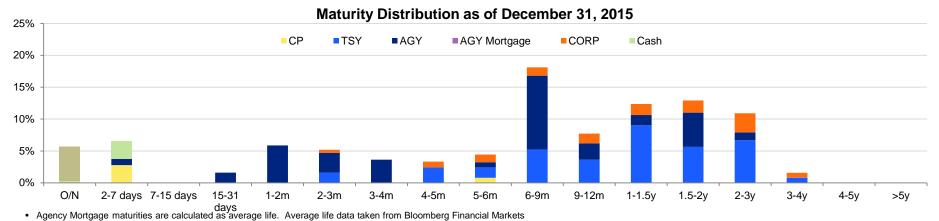
# Issuer Ratings Table (Corp/CP) as of December 31, 2015

Issuer Distribution	Sectors Invested	S&P Short	S&P Long	Moodys Short	Moodys Long
Apple Inc.	CP	A-1+	AA+	P-1	Aa1
Bank of America	Corp	A-1	Α	P-1	A1
Bank of Montreal	Corp	A-1	A+	P-1	A1
Bank of Nova Scotia	Corp/CP	A-1	A+	P-1	Aa2
JP Morgan Chase	Corp	A-1	A+	P-1	Aa2
PNC Bank	Corp	A-1	Α	P-1	Aa2
Royal Bank of Canada	Corp	A-1+	AA-	P-1	Aa3
Toronto Dominion Bank	Corp	A-1+	AA-	P-1	Aa1
US Bank	Corp	A-1+	AA-	P-1	Aa3
Wells Fargo Bank	Corp	A-1+	AA-	P-1	Aa1
UPS	CP	A-1	A+	P-1	Aa3

<sup>\*\*</sup>Bank ratings of the depositories for the collateralized securities are given on page 14.

# V. Maturity Distribution

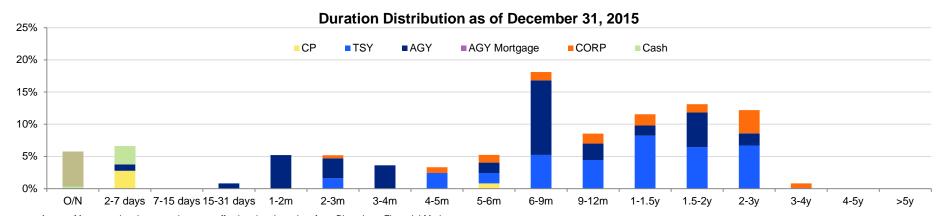
Maturity Distribution	Observations
Weighted Average Maturity ("WAM")	<ul> <li>The County continues to diversify holdings across its permitted maturity range, as seen in the chart below.</li> <li>A majority of the holdings – 62% of the portfolio – are scheduled to mature or have a call date within the next twelve months. This percentage is slightly higher compared to the previous quarter end (58%).</li> <li>It appears the County's maturity strategies over the past several quarters have included:         <ul> <li>Allowing previously purchased, longer-dated US Treasury, federal agency, and corporate bank note investments to naturally shorten in maturity and roll-down the yield curve,</li> <li>Reallocate a portion of overnight investments into higher-yielding, short-term investment vehicles, including: commercial paper, corporate bank notes, and agency discount notes,</li> <li>Target duration extensions in the following spaces:</li></ul></li></ul>
Liquidity	<ul> <li>The County Pool appears to provide adequate liquidity, both in terms of final maturities and the sectors in which the Pool has invested. In addition to the 5.7% (or \$353 million) invested in a combination of the Washington State LGIP, bank deposits, and repurchase agreements (overnight liquidity), an additional 8.2% of the portfolio's holdings are scheduled to mature within the next thirty-one days.</li> <li>Based on historical cash flow patterns, the Pool would expect a decrease in funds during the first quarter. On average, over the past four years, the County has experienced an average net cash outflow of \$224 million in quarters ended March 31st.</li> </ul>



- · Callable securities shown to their call date.
- · All other security maturities are calculated as days to maturity. WA LGIP is considered to have a one day maturity.

## V. Duration Distribution

<b>Duration Distribution</b>	Observations
Definition	<ul> <li>Duration is a measure of the sensitivity of the value of principal of an investment to a change in interest rates. For example, the value of a portfolio with a higher duration is more sensitive to interest rate increases and decreases.</li> <li>Duration is often quoted in years and is commonly used as a measure of the market risk of a security or portfolio. Duration can be derived in a number of ways; please refer to the notes at the bottom of this page for details.</li> </ul>
Duration	The portfolio's weighted average duration is within the IPS guidelines (no greater than 1.5 years).
	<ul> <li>As of December 31th, the duration of the County Investment Pool is 0.93 years, a slight decrease from a duration of .98 years on September 30th.         Over the past four quarters, the Pool's duration has gradually been shifted shorter (4Q14 1.26 years, 1Q15 1.14 years, 2Q15 1.07 years, 3Q15 0.98         years, 4Q15 0.93), which appears to reflect a defensive posture with awareness of the general outlook for gradual increases in interest rates.</li> </ul>
	<ul> <li>The decrease in portfolio duration can also be attributed to a natural shortening of a majority of previously purchased securities.</li> </ul>
	<ul> <li>When comparing the weighted average duration of the aggregate portfolio to the WAM of the portfolio, it is observed that the duration (0.93 years) and the WAM (0.93 years) are virtually the same.</li> </ul>
	<ul> <li>This difference in duration and WAM has narrowed to zero over the past several quarters (largely due to declining overall allocations to callable agencies). Dating back 24 months, the spread between the portfolio's duration and WAM has decreased consistently from 0.31 years on December 31, 2013 to zero, as of December 31, 2015.</li> </ul>
	<ul> <li>For performance and duration comparison purposes, the portfolio is measured against a blended benchmark consisting of 40% Bank of America Merrill Lynch 3-Month Treasury Index and 60% Bank of America Merrill Lynch 1-3 Year Treasury &amp; Agency Index.</li> </ul>
	<ul> <li>Over the past several quarters, the County portfolio has shifted to a more defensive bias and as of December 31st was 82% of the benchmark. In anticipation of rising rates, a more defensive duration bias helps mitigate the adverse impact that potential interest rate increases may have on market value.</li> </ul>



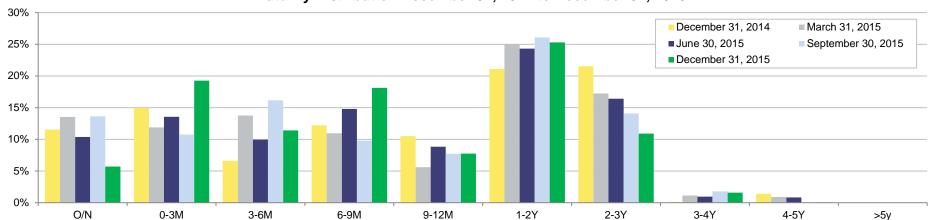
- · Agency Mortgage durations are shown as effective duration taken from Bloomberg Financial Markets.
- Duration for Federal Agency Discount Notes and Repurchase Agreements are calculated as days to maturity. WA LGIP and bank deposits considered to have a one day duration.
- · All other security durations are calculated as effective duration as given by Bloomberg Financial Markets.

## V. Changes in Portfolio Maturity Distribution

# Changes in Portfolio Maturity Distribution

- · When viewing the current maturity distribution (dark green bars) in relation to previous periods, a few primary observations are noted:
  - Approximately 12 months ago, the County targeted tactical allocations to the very steep "2-3 Year" and "4-5 Year" maturity range (23% of the portfolio as
    of 4Q14 versus 11% as of 4Q15), and over the past few quarters those securities have been held, rolling down the yield curve, and naturally shortening
    in duration to the "1-2 Year" maturity range.
  - The County's previous tactical allocations to the "3-4 Year" maturity range benefited the portfolio. Over the 12-month period ending September 30, 2015,
     1-5 Year Treasuries outperformed 1-3 Year Treasuries by approximately 43 basis points.
  - With expectations for a rise in interest rates at the December Fed meeting, the portfolio appeared to have been positioned with less emphasis on securities in longer durations to help protect market values against the rising interest rate environment.
  - As of December 31, 2015, 25% and 19% of the portfolio is positioned in the 0 to 3 month and 1 to 2 year area of the curve, representing a balance of defensive duration posture and steep yield curve positioning (maturities beyond 1 year).
  - Compared to prior quarters, the County has both continuously decreased overnight allocations and increased allocations in the 0-3 and 6-9 month
    maturity ranges, as the County continues to purchase new credit issues, including high-quality commercial paper and short-term corporate bank notes
    and federal agency discount notes. These sectors continue to offer incremental yield advantage compared to similar maturity Treasuries.
  - As noted above, overnight allocations appear to have been gradually reduced. Removing excess liquidity from overnight investment vehicles and
    aligning short-term maturities to future cash flow dates helps to maximize interest earnings in the current low, short-term interest rate environment and
    provides for opportunity to reinvest at potentially higher yields, as rates continue to rise.
- Seasonality of cash flows is critical to maturity distribution and liquidity management and the following is a snapshot of the historical cash flow averages for upcoming quarters.
  - Over the past four years, for the quarters ending March 31st, the average net <u>outflow</u> from the Investment Pool was \$224 million.
  - Over the past four years, for the quarters ending June 30, the average net inflow to the Investment Pool was \$523 million.

#### Maturity Distribution December 31, 2014 to December 31, 2015



- Agency Mortgage maturities are calculated as average life. Average life data taken from Bloomberg Financial Markets
- · Callable securities shown to their call date.
- · All other security maturities are calculated as days to maturity. WA LGIP is considered to have a one day maturity.

### Disclaimer

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